DOCUMENT RESUME

ED 120 521 95 CE 006 828

TITLE	Evaluative Report on Phase I of the Secondary Schools Project for an Introduction to the Allied Health Professions.
INSTITUTION	California Univ., Los Angeles. Div. of Vocational Education.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
PUB DATE	Aug 71
NOTE	94p.
EDRS PRICE	MF-$0.83 HC-$4.67 Plus Postage
DESCRIPTORS	Academic Achievement; Career Planning; Course Content; Curriculum Evaluation; Health Facilities; *Health Occupations Education; *Occupational Choice; *Paramedical Occupations; Participant Characteristics; *Program Effectiveness; *Program Evaluation; Secondary Education; Student Interests; Student Opinion
IDENTIFIERS	Allied Health Education; *Allied Health Professions

ABSTRACT

The report is an evaluation of a project designed to provide first year high school participants with core knowledge related to the field of health care. Additionally, its intent was to prepare them to make a career choice of an allied health occupation and to continue in an advanced training program and/or to be employed. Data concerning grade point average, attendance, attrition, and the achievement of performance objectives were analyzed and indicated that the program had been successful. Data are reported under the following major headings: students participating in the program, student interest in learning experiences (curriculum topics, health-care tasks, field trips, and learning methods) offered, general quality and effectiveness of the program (as compared to a control group and appraised by students, parents, and national leaders in health care), and student progress toward achievement of performance objectives. Twenty-three findings, five conclusions, and four recommendations are presented. Appended are: a curriculum outline, student project evaluation forms, student interest summary data, occupational plans form, "Knowing About Jobs" form, hospital employee performance appraisal form, and a list of project staff and participating schools. (Author/MS)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED120521

1261

EVALUATIVE REPORT ON PHASE I

OF

THE SECONDARY SCHOOLS PROJECT

FOR

AN INTRODUCTION TO
THE ALLIED HEALTH PROFESSIONS

Clarence Fielstra, Ph.D.
Director of Evaluation

Barbara Rosenquist, Ph.D.
Research Analyst

U.S. Office of Education
Research and Demonstration
Grant 8-0627

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

UNIVERSITY OF CALIFORNIA, LOS ANGELES
Division of Vocational Education
ALLIED HEALTH PROFESSIONS PROJECTS

August 1971

OE008828

UNIVERSITY OF CALIFORNIA, LOS ANGELES
Division of Vocational Education
Allied Health Professions Projects
Secondary Schools Project
1003 Wilshire Boulevard
Santa Monica, California 90401
393-9281

UNIVERSITY OF CALIFORNIA, LOS ANGELES
Division of Vocational Education

SECONDARY SCHOOLS PILOT AND DEMONSTRATION PROJECT

STAFF

Melvin L. Barlow, Ed. D.	Principal Investigator and Project Director
Miles H. Anderson, Ed.D.	Acting Director
Diane E. Watson, M.S.	Deputy Director
William Hudson, B.A.	Senior Field Coordinator
Marilyn Morgan, M.P.H.	Field Coordinator
Gregory Threadgill, B.S.	Field Coordinator
Doris Rosenthal, M.P.H.	Curriculum Specialist
Phyllis Agran, M.P.H.	Curriculum Specialist
Barbara Rosenquist, Ph.D.	Research Analyst
Clarence Fielstra, Ph.D.	Evaluation Specialist
Shirley Majchrzak, M.S.	Consultant
May Kishyama, M.A. Maude Peronneau, R.N., B.A. Elaine Hadden, B.A. Marcelin Fortain, B.A.	Project Teachers
Mary Ellison Sylva Grossman Seba Kolb	Editors
Margaret Campbell Judy Dobson	Secretaries

1003 Wilshire Boulevard, Santa Monica, California 90401 (213) 393-9281

FOREWORD

The Secondary Schools Project, devoted to the general area of allied health, represents a significant step in the adjustment of high school programs toward the goal of relevancy. It provides an opportunity for high school students (in this case tenth graders) to have a variety of experiences in a family of occupations in the health field. To a very large extent this program is new in secondary education. Although some schools have experimented with specific programs such as one for the nurse aide, the allied health program covers a wide range of occupations related to patient care, clinical assistance, and facilities support and administration.

Evaluation of the Secondary Schools Project was planned as an integral part of the experimental and demonstration program. Evidence was sought upon which value judgments concerning the program could be made and which would also suggest curricular changes.

The evaluation program was planned and conducted under the direction of Dr. Clarence Fielstra, Professor, Graduate School of Education, University of California, Los Angeles. Dr. Barbara Rosenquist, Research Analyst, Division of Vocational Education, University of California, Los Angeles, assisted with the implementation of the evaluation plan.

The evidence seems unquestionably to indicate that an allied health curriculum in the secondary schools can produce commendable educational results. The Secondary Schools Project is generalizable for other high schools and expansion is anticipated during the school year 1971-1972.

Melvin L. Barlow, Principal Investigator
Professor of Education
University of California, Los Angeles

Director, Division of Vocational Education
University of California

TABLE OF CONTENTS

	Page
INTRODUCTION	1
BACKGROUND OF THE PROJECT	3
Organization of Evaluative Report	4
STUDENTS PARTICIPATING IN PROGRAM	4
Criteria Used for Student Selection	4
Process Used in Student Recruitment and Selection	5
Reasons Students Applied for Participation in Program	7
Age and Ethnic Characteristics of Selected Students	8
STUDENT INTEREST IN LEARNING EXPERIENCES OFFERED DURING FIRST YEAR	8
Student Interest in Curriculum Topics	9
Student Interest in Health-Care Tasks	12
Student Interest in Field Trips	16
Student Reaction to Learning Methods	17
GENERAL QUALITY AND EFFECTIVENESS OF FIRST YEAR OF PROJECT	20
Comparison of Project Group with Control Group in Grade-Point Average	21
Comparison of Project Group with Control Group in School Attendance	22
Comparison of Project Group with Control Group in Dropouts from School	23
General Appraisal of Project by Students	24
General Appraisal of Project by Parents of Participants	26
General Appraisal of Project by National Leaders in Field of Health Care	27

	Page
STUDENT PROGRESS TOWARD ACHIEVEMENT OF PERFORMANCE OBJECTIVES	35
Students' Self-Evaluation of Progress	35
Parents' Evaluation of Students' Progress	35
Evidence of Progress Toward Achieving Vocational Maturity	38
Evidence of Progress in Developing Skills and Behaviors Essential to Working in the Health-Care System	40
Evidence of Progress in Becoming a Knowledgeable Consumer of Health-Care Services	43
SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS	45
Findings of the Study	45
Conclusions	49
Recommendations	50
APPENDICES AND EXHIBITS	53
Appendix A -- First-Year Curriculum Outline	55
Appendix B -- Students' Evaluative Opinions (Form)	65
Appendix C -- Student Interest Inventory (Summary Data)	69
Appendix D -- Occupational Plans (Form)	83
Appendix E -- Knowing About Jobs (Form)	85
Appendix F -- Performance Appraisal (Form Used by Hospital Supervisors)	89
Exhibit A -- Secondary Schools Project Functional Chart	91
Exhibit B -- Organizational Chart for AHPP	93
Exhibit C -- Staff List, Secondary Schools Project	94
Exhibit D -- Complexes Participating in Secondary Schools Project	96

INTRODUCTION

In 1968, it became apparent to the nation that the shortage of health related manpower was crucial. The Secretary of Labor reported the need for half a million additional health workers in the next ten years, and this projection did not take into account replacements for existing workers. These needs called for new sources of manpower to support the efforts of highly skilled professionals in the health care field, and for innovative approaches to the education and training of candidates for the new jobs that will appear in the updated health care delivery system.

Out of the need grew the Secondary Schools Pilot and Demonstration Project -- the Allied Health School Program designed to tap an abundant manpower potential. To provide the students with the basis for an informed occupational choice, the Secondary Schools Pilot and Demonstration Project developed a curriculum and instructional materials so that during the first year of senior high school the participants in the project could acquire the core knowledge related to the entire field of health care. The second year was to be a work experience leading to a third year cooperative education plan.

The project's intent is to:

1. Prepare the student to make an appropriate career choice of an allied health occupation
2. Prepare the student to continue in an advanced educational or training program and/or to be employed in an allied health occupation
3. Prepare the student to function satisfactorily as an employee in the health care system
4. Prepare the student to be a knowledgeable consumer of health care services

It therefore became necessary to evaluate this project to determine if the curriculum does, in fact, prepare students for employment or higher education in the allied health occupations. The evaluation process was carried out under the direction of a competent research team, assisted by teachers, field coordinators, and project staff. Data concerning grade-point average, attendance, attrition, and the achievement of performance objectives were analyzed and interpreted to indicate how successful the program has been to this point.

The evaluation results will serve to help the project become a tested model that can be implemented nationwide.

Diane E. Watson, M.S.
Deputy Director
Secondary Schools Pilot
and Demonstration Project

BACKGROUND OF THE PROJECT

In this report an evaluation is made of Phase I of the Secondary Schools Pilot and Demonstration Project for an Introduction to the Allied Health Professions. The Pilot Project is part of the UCLA Allied Health Professions Projects, a national curriculum research and development program funded by the U.S. Office of Education. A full description of the pilot project is included in a monograph entitled Background, Program, and Progress of the Secondary School Project (October, 1970).

The instructional aspects of the pilot project cover a three-year period, beginning in September, 1970, and the program involves the cooperation of four hospital-school-community college complexes in the Los Angeles area. Upon completion of the program the student participant is expected to achieve the following broad objectives:

1. He will be prepared to make an appropriate career choice of an allied health occupation.
2. He will continue in an advanced educational or training program and/or will be employed in an allied health occupation.
3. He will be able to function satisfactorily as an employee in the health care system.
4. He will be a knowledgeable consumer of health care services.

During the first year of the project (Phase I), one hundred tenth-grade students (twenty-five in each of four inner-city high schools in the greater Los Angeles area) were exposed to a wide range of health-care occupations, and they were given opportunities to put into use at

health-care facilities the basic knowledge gained in the high school course specifically designed for student participants in the project. A list of the schools and hospitals which participated in Phase I of the Secondary Schools Project is presented in Exhibit D.

Organization of this Evaluative Report

The descriptive data and evaluative data presented in this report are organized in accord with the plan described in an earlier monograph entitled Evaluative Study Design, Phase I of the Secondary Schools Project (February, 1971). Major headings under which the data are reported are these:

1. Students participating in the program (pp.3-7)
2. Student interest in learning experiences offered during first year of the program (pp.7-19)
3. General quality and effectiveness of first year of the program (pp.19-34)
4. Student progress toward achievement of performance objectives of the program (pp.34-44)

STUDENTS PARTICIPATING IN PROGRAM

Criteria Used for Student Selection

In the selection of students for participation in Phase I of the Secondary Schools Project, the criteria used were: sex, grade-point average, and interest. The goal was to have a project class composed of 25 tenth-grade students in each of four inner-city schools. In each of these classes there was to be an approximately even division of the sexes of the students; and each class was to be composed of students from varying ability levels, 15 percent selected from the upper ability level (G.P.A. from 3.0 to 4.0), 60 percent from the middle ability group (G.P.A. from 2.0 to 3.0), and 25 percent from the lower ability level (G.P.A. below 2.0). Each of the 100 students selected was expected to show genuine interest in the program and to express a desire to participate in the health field.

Process Used in Student Recruitment and Selection

One of the field coordinators on the staff of the Secondary Schools Project visited the ninth-grade homerooms in each junior high school feeding into the four project schools, passing out brochures about the program and asking students to take them home and read them overnight. The following day, the field coordinator returned to the homerooms, gave a brief orientation to the program, and answered questions posed by the students. He then collected the application blanks from interested students, and interviews were scheduled in each junior high school for the students applying to the program.

The students were subsequently interviewed by the field coordinator in groups of 5 or 6, following a suggested interview format. This procedure was designed to expedite the use of time necessary for interviewing (there were 350 applications from one school), as well as to provide a peer-group situation in which each student would feel comfortable while expressing his feelings and show himself off to his best advantage.

During each interview, the field coordinator attempted to identify a sincere interest in the program and some relationship between the student's stated career interest and potential opportunities in the health-care system. Following the interviews, between 75 and 100 students were chosen at each junior high school from the group interviewed as prime candidates. For each of these students, the school cumulative folder was pulled and information recorded as to attendance record, test scores, previous high school cumulative grade-point average, and behavior record.

Students were rejected from further consideration if any of the following characteristics were indicated in the cumulative record:

1. Tagged in some way to denote a deep-seated emotional problem
2. Suffering from chronic illness
3. Prolonged absenteeism resulting from poor health
4. Classified as EMR, TMR, or EH.

Subsequently, the remaining prime candidates were categorized on the basis of the students' sex and ability level. The final selection was determined by the number of openings in each category and by the final judgment of the field coordinator. (An alternate list of 25 students, fitting the same configuration of criteria as the selected group, was chosen from the remaining students.)

The parents of the 25 selected students were then individually contacted regarding their interest in having their children involved in the program. Any student selected for the program was replaced from the alternate list of students if his parents failed to give approval.

As soon as the "active" and "alternate" lists had been prepared, students were notified by mail of their place on the list. After letters had gone out, the field coordinator checked with each student on the active list to make sure he was still interested. This was done again approximately three weeks prior to the opening of school. Any vacancies which developed were filled by students from the alternate list.

The approximate composition thus obtained in each of the four classes in the project is depicted in Table I which follows:

Table I

Student Composition of Each Project Class

Sex	Ability Level			
	High (GPA = 3.0-4.0)	Middle (GPA = 2.0-3.0)	Low (GPA = below 2.0)	Total
Male	2	7	3	12
Female	2	8	3	13
Total	4	15	6	25

Reasons Students Applied for Participation in Program

More than 900 students applied for participation in the Secondary Schools Project, and 100 students were selected. The reasons given for wishing to take part in the program fell into these six categories:

1. Specific interest in an allied health occupation (27 percent)

   ". . .want to be a nurse; this program will help me."

   ". . .always have been interested in medical field."

2. General interest in career planning and decision making (21 percent)

   ". . .sounds interesting, might help me decide what to do."

   ". . .to see what it's all about."

3. Interest in helping people (16 percent)
   ". . .to help people in their health."
   ". . .like working with people and children who are sick."
4. Interest in getting a job and earning money (14 percent)
   ". . .to earn and learn at the same time."
   ". . .love to work; money would help."
5. General interest in self-improvement (10 percent)
   ". . .sounds very educational."
   ". . .to have a good experience."
6. No reason stated on application (12 percent)

Age and Ethnic Characteristics of Selected Students

All of the 100 selected students were in-coming tenth graders, in the 14-15 year age bracket. Because of the location of the school-hospital complexes, most of the selected students were members of ethnic minorities; 62 percent were Black, 21 percent Mexican-American, 5 percent Oriental, and 11 percent other-Caucasian.

STUDENT INTEREST IN LEARNING EXPERIENCES OFFERED DURING FIRST YEAR

The school schedule of the students who took part in the Allied Health Project was so arranged as to include a daily two-period block of time in the afternoon, immediately after lunch, to be devoted to the program. The curriculum during the first year was divided into three modules, which are briefly described below:*

Module I included an "Introduction to the Allied Health Professions Projects" and an "Introduction to the Health Care System." Seven field trips to health facilities supplemented classroom study during this two-month module.

Module II dealt with "Meeting the Needs of the Patient through the Health Care System." Included were presentations of seven case studies related

*A detailed outline of the curriculum is included in Appendix A .

to common health problems. With regard to each case the following matters were considered:

1. The health facilities and personnel involved in handling the problem; career ladders of health personnel
2. Anatomy and physiology related to the health condition being analyzed
3. Personal and social complications of the health problem
4. Medical terminology related to the problem
5. Specific job tasks involved in care of problem
6. Communication and interpersonal relations involved in care of problem

In the course of the seven case presentations, the students were introduced to forty-five hospital occupations and to thirty-two hospital tasks involved in patient care. They also learned to identify and use twenty-three pieces of equipment. Numerous field trips supplemented classroom study throughout the entire module.

Module III was concerned with "The Health-Care Complex." As part of this module, students were (a) prepared for having an exploratory work experience in a hospital and (b) given a supervised month-long work experience in the hospital. During the month of May the students were bussed to the cooperating hospital in their complex. Daily, from 1:00 to 3:00 p.m., they performed tasks which had been arranged for them by the field coordinator and hospital supervisors. Occupational areas were changed weekly, so that students could be exposed to activities and career opportunities in the following fields: patient care, facilities support, technical services, and clinical services.

Student Interest in Learning Experiences -- Curriculum Topics

One aspect of the evaluative study reported in this monograph was the administration of a student-interest inventory. The interest inventory was divided into these parts: curriculum topics, health-care tasks, field trips,

and learning methods used. Students were requested to rate each of the items listed under the above headings as being "very interesting" (10 points), "interesting" (5 points), "uninteresting" (-5 points), "very uninteresting" (-10 points), and "not covered in class" or "don't know" (0 points).

On the basis of returns from sixty-six students, Table II (page 10) shows, in rank order, the average interest score given to curriculum topics included in Phase I of the project.

One clear inference that can be made from a study of Table II is that the students were most interested in topics that related to their immediate lives. For instance, they were much interested in quackery, folk medicine, and maternal and child care because of the direct relationship of these topics to health practices in their homes today. Similarly, they were much interested in information regarding venereal disease, drug use, and mental health because of the immediate usefulness of such information. On the other hand, they had relatively little interest in the "more removed" topics such as health manpower needs and the health worker and the law.

Some further explanation may be given of the actual disinterest in the topic of health insurance. Material on this topic used by the students was chiefly in the form of "programmed instruction," and apparently the reading level required to use the materials was too high for most of the participants in this project. As a result, the students were frustrated and "turned off."

By far the most interesting aspect of the curriculum, according to student ratings, was the hospital experience itself. On the other hand,

Table II

Student Interest in Curriculum Topics

Topic	Average Interest Score
Hospital experience	8.4
Relationship of individual to community health and social problems; e.g., alcoholism, Rubella	6.9
Mental health and drug overdose (Case VI)	6.7
Maternal and child care (Case V)	6.5
Folk medicine; quackery	6.1
Fractured leg and hospitalization (Case II)	5.3
Pollution problems; emphysema (Case IV)	5.1
Environmental health; sanitation and food processing (Case III)	4.9
Midwifery	4.6
Introduction to AHPP; hospital observation	3.9
Problems of the present health-care system	3.8
High school physical examination (Case I)	3.2
Components of the health-care system --hospitals, clinics, and other community health agencies	3.1
Ethics of the healing arts	2.4
Health manpower needs	1.9
The health worker and the law	1.2
The role of the learner	.9
Health insurance	-.3

however, the students expressed very little interest in the following topics studied as part of their preparation for the hospital experience: attitudes and behavior appropriate to the world of work, ethics of the healing arts, the health worker and the law, and the role of the learner. Lowered interest in these topics appeared to result chiefly from two factors -- the students' resentment of what they considered to be an indoctrination orientation and frustration in the reading and use of programmed materials prepared by the AHPP Center for dealing with the topics.

Student Interest in Learning Experiences -- Health-Care Tasks

Table III (page 12) shows, in rank order, the average interest score given by the students to the health-care tasks with which they had become acquainted during Phase I of the project. It should be noted that the average interest scores given in the table were computed on the basis of scores given by only those students who reported that they had had experiences with the tasks. Although all of the tasks listed in Table III were recommended for students in each of the four schools taking part in the project, many of the tasks were not performed in one or more of the schools; the chief reason for this fact was the lack of necessary equipment or facilities for the task in those schools. The range in the number of students who reported having an experience with a health-care task was from a high 62 (out of a possible total of 66, the number of interest inventories analyzed) to a low of 14. The task performed by 62 students was the filling out of a hospital admission form, and the task performed by only 14 students was that of performing the PKU test.

Table III

Student Interest in Health-Care Tasks

Tasks	No. of Students Having Experience	Average Interest Score
Blood typing	33	7.2
Taking and recording blood pressure with sphygmomanometer	59	7.1
Listening to heart with stethoscope	60	7.0
Taking blood count	18	7.0
Taking pulse, using a stop watch	57	6.7
Splinting a broken leg	56	6.5
Positioning a patient (postural drainage)	15	6.3
Casting	49	6.2
Streaking and examining agar for bacterial growth	44	5.9
Measuring weight, using balance scale; measuring height	55	5.8
Using microscope	35	5.8
Taking temperature, using Fahrenheit thermometer	54	5.7
Treating patient for shock	31	5.4
Taking respiration rate	52	5.3
Performing PKU test	14	5.3
Using hydrotherapy	40	5.3
Performing artificial respiration; mouth-to-mouth resuscitation	21	5.0
Performing vision test, using Snellen Chart	61	4.8
Placing patient on guerney and transporting	40	4.8

Table III (Continued)

Student Interest in Health-Care Tasks

Tasks	No. of Students Having Experience	Average Interest Score
Interviewing health personnel and others	53	4.7
Testing reflexes, using percussion hammer	52	4.4
Taking dictation and recording vital signs	42	4.4
Analyzing and evaluating health information (quackery, folk medicine)	54	4.1
Performing urine tests	58	3.9
Walking on crutches	41	3.9
Performing closed cardiac massage	17	3.8
Autoclaving	35	3.8
Measuring vital capacity with spirometer	27	3.3
Filling out medical history and physical examination forms	57	2.1
Filling out hospital admission forms	62	2.0
Designing meal plans	38	1.7
Terminal digit filing	61	1.4
Contacting community services on telephone	35	1.4
Measuring with a centimeter ruler	31	1.2
Making beds	48	1.0
Alphabetical filing	61	.8
Filling out health insurance forms	59	-.2

Evidence that students in the project enjoyed learning and performing health-care tasks was marked. Since the highest rating they could give any task was a "plus 10" (very interesting) and the lowest score they could give was a "minus 10" (very uninteresting), it is significant to note that only two of the thirty-seven tasks rated were given average scores of less than "plus 1"; and seventeen of the tasks were given average scores of "plus 5" or higher. Quite clearly, the students enjoyed the "learning by doing" which was involved in the performance of the health-care tasks. In their free response comments many of the students expressed the recommendation that more tasks be taught in subsequent replications of Phase I of the project.

The need for differentiating curricular activities in terms of greatly varying abilities and interests of students in the project became dramatically apparent during the analysis of the data reported in Table III. The range in student interest in many of the tasks was remarkably great. For example, the task of filling out health insurance forms (the task which received the lowest average interest score from the total group) was given the rating of "very interesting" by nine students, the rating of "interesting" by nineteen students, the rating of "uninteresting" by twenty-four students, and the rating of "very uninteresting" by nine students. Similarly, the task of making beds (which received next to the lowest average interest score) was rated "very interesting" by seven students, "interesting" by twenty-one students, "uninteresting" by fifteen students, and "very uninteresting" by five students. An almost equally broad range of student interest was expressed in the following tasks: alphabetical filing, terminal digit filing, designing meal plans, contacting community services by telephone

and filling out hospital admission and medical history forms. Therefore, even though average interest scores for such tasks were relatively low, the keeping of the tasks in the program is essential, especially for the fifty percent or more of the students who find them "interesting" or even "very interesting."

Student Interest in Learning Experiences -- Field Trips

The taking of field trips was ranked by the students as an outstandingly interesting aspect of the project. The nature of the field trips varied from school to school, and no attempt is made in this report to compare the schools in the interest quality of the trips which each provided. Instead, there are listed below (in rank order) the five field trips which students rated as being most interesting of all the field trips offered by their schools:

Most Interesting Field Trips -- Fremont High School

1. To St. Francis Hospital -- introductory observations
2. To Children's Hospital -- Adolescent Clinic
3. To UCLA -- AHPP pollution exhibits
4. To Harbor General Hospital -- orthopedic service
5. To Martin Luther King Hospital -- site visitation

Most Interesting Field Trips -- Jordan High School

1. To Harbor General Hospital -- introductory observations
2. To Harbor General Hospital -- internship
3. To Morningside Hospital -- "career happening"
4. To Fremont High School -- Hawaii Five-O film on quackery
5. To Memorial Hospital -- "career day"

Most Interesting Field Trips -- Lincoln High School

1. To Fremont High School -- Hawaii Five-O film on quackery
2. To Children's Hospital -- Adolescent Clinic
3. To Cedars-Sinai Medical Center -- film on childbirth
4. To Cedars-Sinai Medical Center -- observing physical therapist services
5. To Cedars-Sinai Medical Center -- observing orthopedic technician services

Most Interesting Field Trips -- Long Beach Polytechnic High School

1. To Harbor Hospital -- ortho-technician case demonstration
2. To Long Beach Free Clinic -- tour of facilities
3. To St. Mary's Hospital -- introductory observations
4. To Fremont High School -- Hawaii Five-O film on quackery
5. To Cedars-Sinai Medical Center -- physical examination and medical history

Among the most common free-response comments made by the students on evaluation forms which were given to them after the completion of each trip were statements to the effect that they most enjoyed going to places where the personnel being visited made them feel welcome and worthy of attention and assistance. On the other hand, students expressed considerable disappointment and unhappiness regarding visits to personnel who failed to show up, arrived very late, or showed little interest in the students or in their questions.

Student Reaction to Learning Methods Used in Project

Student ratings of twenty-three "methods of learning" used in the project are summarized in Table IV (page 17). As was the case in other ratings by the students, the rating of learning methods was based on the following

Table IV

Student Reaction to Methods of Learning Used in Project

Method of Learning	No. of Students Experiencing the Method	Average Interest Score
Taking field trips to health-care facilities	62	7.9
Using films, slides, records, and other audiovisual materials	62	7.6
Performing laboratory activities and hospital tasks in the classroom	54	7.4
Working with "Buddies"	43	6.8
Having classroom discussions, "rap" sessions	60	6.6
Having guest speakers	62	6.2
Performing in plays, skits, charades, and games	63	6.2
Having demonstrations by teacher or guest	61	6.1
Having tutorial assistance	55	6.1
Interviewing hospital personnel and others	61	5.6
Role-playing and improvising	48	5.4
Having debates	58	5.4
Making posters, cartoons, drawings, charts, and exhibits	61	5.1
Collecting health-related information	59	5.1
Using programmed learning modules	45	4.2
Presenting reports of individual research to class	60	3.8
Doing independent reading	55	3.0
Doing library research	53	2.3

24

Table IV

Student Reaction to Methods of Learning Used in Project

Method of Learning	No. of Students Experiencing the Method	Average Interest Score
Keeping personal notebooks and occupational files	62	2.0
Reading aloud -- student	58	.6
Reading aloud -- teacher	55	.3
Writing reports	59	.2
Listening to lectures	59	-.5

four-point scale: very interesting (plus 10), interesting (plus 5), uninteresting (minus 5), and very uninteresting (minus 10).

Three of the methods used in the project were almost unanimously rated as being either "very interesting" or "interesting." These methods were taking field trips, using audiovisual materials, and performing laboratory activities. Only one method was given an average interest score which was on the "minus" or "uninteresting" side of the scale, and that score was "minus .5" (the average score given to listening to lectures). Three other methods were given very low "plus" scores; these were: reading aloud -- student, reading aloud -- teacher, and writing reports.

Regarding the learning methods which were given the lowest average interest scores, it is especially interesting to note that the range of ratings given by individual students was very great. For example, the lowest-scored method -- listening to lectures -- was given ratings of "very interesting" by eight students, "interesting" by twenty-three students, "uninteresting" by eleven students, and "very uninteresting" by seventeen students. Similar ranges in individual student ratings were given to these methods: writing reports, reading aloud -- teacher, and reading aloud -- pupil. The four learning methods which were given the lowest average interest scores were actually rated "very interesting" or "interesting" by well over fifty percent of the students. It seems clear, therefore, that the retention of these methods, especially for pupils who do find them interesting, would be desirable. Equally clear is the fact that many and diversified learning methods must be used in this project, which was designed for inner-city students of varying abilities and interests.

GENERAL QUALITY AND EFFECTIVENESS OF FIRST YEAR OF PROJECT

In this section of the evaluative report the following comparisons and appraisals are presented:

1. A comparison of the project group with a control group in grade-point averages
2. A comparison of the project group with a control group in school attendance
3. A comparison of the project group with a control group in dropouts from school

4. A general appraisal of the project by student participants
5. A general appraisal of the project by parents of student participants
6. A general appraisal of the project by national leaders in the field of health care

Thus, in the first three parts of this section data are presented relative to the relationship between participation in the project and success in school as indicated by improved grades, attendance, and retention in school. In the remaining three parts of the section, evaluative opinions of the project as expressed by selected personnel are reported. Data and opinions regarding student progress toward the achievement of certain specific performance goals of the project are presented in the section of the report which follows this one.

Comparison of Project Group with Control Group in Grade-Point Average

As shown in Table V, which follows, students in the Allied Health Project had an average G.P.A. of 2.4 prior to beginning work in the project. By the end of the first semester in the project, their G.P.A. had risen to 2.5; but by the end of the year it had returned to 2.4. Students in the equated control group had an average G.P.A. of 2.5 at the beginning of the year. At the end of the first semester, their G.P.A. had dropped to 2.3; and by the end of the year it had dropped further to 2.2.

Thus, while the grade point averages of students in the program were not lowered during the year that they were in the tenth grade, the

G.P.A. of equated students in the control group dropped from 2.5 to 2.2 during the same year.

Table V

Tenth Grade G.P.A.'s of Project and Control Students*

Students	G.P.A. in Sept., 1970	G.P.A. in Feb., 1971	G.P.A. in June, 1971	Net Change in G.P.A.
Project	2.4	2.5	2.4	0.0
Control	2.5	2.3	2.2	-0.3

*Based on data for 92 project students during first semester and 78 students for second semester; and based on data for 64 control students during first semester and 63 students for the second semester.

The slight drop in the grade point average of the project group between February and June was the result of the fact that six "high ability" students had transferred out of the project during that period. For the "low ability" and "middle ability" students there was a slight improvement in grade point averages, and this improvement may indicate that for such students participation in the project increased motivation which resulted in earning higher grades.

Comparison of Project Group with Control Group in School Attendance

In the matter of school attendance, the record made by Allied Health Project enrollees during the first year was almost exactly the same as

that made by students in the equated control group; the average number of days absent for AHP students was 19.6, and for the control students it was 19.3. Thus, participation in the project apparently had little effect on regularity of school attendance.

Comparison of Project Participants with Control Group in Dropouts from School

Attrition in the number of students enrolled in the project was 10 percent during the first semester of the program. Reasons for the attrition were these: transferred to more academic program (4 percent); left school and/or transferred to other schools (3 percent); changed to secretarial program (2 percent); and married (1 percent). For the entire year, the attrition in program enrollees was 18 percent. Reasons for the attrition were: left their school and/or transferred to other schools (8 percent); transferred to more academic programs (4 percent); no longer interested in health field (3 percent); program hours conflicted with their interests in sports (2 percent); and married (1 percent).

Of particular interest in the matter of attrition was the fact that while only 8 percent of the 100 ninth-grade students who had been selected to enter the project in the tenth grade (the following September) left school and/or transferred to another school during the summer session before school opened, almost 23 percent of the 92 students in the alternate equated group who had not been selected to enter the program left school and/or transferred to another school during the same period. Thus, over two and a half times as many non-project enrollees left school just before beginning the tenth grade than did project enrollees. Evidently, student interest in the project and admission to it had a close relationship to the reduction of "school leaving."

General Appraisal of Project by Student Participants

Already presented in the section of this report dealing with student interests in the learning experiences offered in the project are tabulations of the students' reactions to the curriculum topics, health-care tasks, field trips, and learning methods which were incorporated in Phase I of the project. As earlier noted, the range of these reactions was great in every category listed above, but average interest scores for almost every topic, task, trip, and method were on the plus side of a scale that ranged from minus 10 (very uninteresting) to a plus 10 (very interesting). Generally, then, the students considered the learning experiences of Phase I to be of interest; and many of the experiences they considered to be excitingly interesting.

To supplement student reactions to specifically listed learning experiences, a form was designed to obtain free-response statements from students regarding "what they liked best about the program and what they liked least about the program." The critical incident technique was utilized.

Student responses to the form most frequently fell into six categories. These categories, together with a few selected excerpts from the students' comments, are listed below in rank order of frequency:

1. Learning technical skills and tasks

   ". . .learning to take blood pressure, temperature, pulse, height and weight; learning how to use medical instruments."

2. Learning about health problems and concerns

   ". . .quackery; knowing about it will help me help others."
   ". . .learning about the human body; seeing how other people react to treatment and surroundings."
   ". . .learning how different diseases are caught and spread."

3. The classroom "rap" sessions and discussions

". . .letting us discuss what we think is important."
". . .picking subjects to research and to report on to the class."
". . .discussing health problems and drugs, trying to find solutions."

4. Hospital experience and field trips

". . .when shown around the hospital and placed in certain places to learn."
". . .learning how to be responsible for self in hospital."
". . .learning about careers in medical field."

5. Role-playing, debating, putting on skits and plays

". . .acting out things we learned in class; educational, fun, interesting."
". . .doing skits on quackery."

Negative incidents most frequently described by the students on the free-response forms fell into these categories:

1. Failure of health-care personnel to keep appointments

". . .when people don't show up for appointment."
". . .waited until time almost up before lady came."
". . .visiting a department, and department head has gone home."
". . .trip to hospital when no one is there to meet us; nothing to do."

2. Being ignored or unappreciated

". . .when people didn't know who we were and why we are there."
". . .no one to show me around."

3. Having inadequate leadership

". . .when teacher doesn't know topic."
". . .when people we are interviewing don't know their field."
". . .listening to nurses talk about jobs when it seemed they didn't know what they were talking about."

4. Dealing with tasks that are too menial

". . .housekeeping tasks are dull and don't require high school education; why included in project?"

". . .discussing the housekeeper is not encouraging to young Blacks; not for college-bound students."

". . .fixing a bed is dull."

5. Having to do too much writing

". . .when we just sit and write all the time."
". . .writing papers and making reports."
". . .writing notes all the time, sometimes on useless subjects."

General Appraisal of Project by Parents of Participants

Parents' appraisal of the Secondary Schools Pilot Project was gained primarily through free and informal discussions with them during evening meetings arranged for that purpose at their schools. These discussions were recorded by an AHPP staff secretary and subsequently were reviewed and analyzed by the evaluation team. The analyses revealed that the parents were highly supportive of the project and appreciative of the fact that their children had been selected as participants in it.

Among the many commendatory comments made by the parents, the ones made most frequently were to the effect that the project had made the following contributions to their sons and daughters:

1. Increased their interest in school and had helped keep them from dropping out
2. Helped them begin to make reasonable and wise career choices
3. Helped them become resource persons for family health information, especially regarding available health-care facilities
4. Markedly increased their communication with their parents

5. Helped them to mature, grow up, and "blossom out" as they dealt openly, honestly, and intelligently with the realities of health problems and health care

6. Provided them with economic advantages derived from their development of saleable skills

The concerns expressed by the parents regarding the project were only these:

1. Is the program academic enough to permit participants in it to count the work toward college admission?

2. Will the participant's earning of money in the project during its work experience phases induce him to get a full-time job immediately, thus utilizing his low-level saleable skills at once, rather than continuing his formal schooling until he has climbed to a higher level of occupational competency which is more closely related to his potential for growth and service?

Both of these concerns appeared to be overcome as a result of the bringing out of pertinent facts in subsequent discussion.

Parental opinions concerning progress made by their children toward achievement of the specific performance objectives of the project are tabulated in a later section of this report.

General Appraisal of Project by National Leaders in Field of Health Care

On January 9, 1971, at a meeting of the AHPP National Advisory Committee, under the chairmanship of Phillip Williams (Vice President, Times-Mirror Company, Los Angeles, California), the total Allied Health Professions Project was reviewed in order to bring the Advisory Committee up to date and to provide an analysis of progress in all facets of the Allied Health Projects, including the Secondary Schools Pilot Program.

Observations and opinions expressed at the meeting by the national leaders in the field of health care are presented below:

> This appears to be a good way to study not only the allied health professions but also other problems in the health-care industry.
>
> I have strong feelings about the secondary school program which has broad implications for meaningful health education, in potential health careers and in terms of wise personal use of health facilities.
>
> Dale Garell, M.D., Director
> Division of Adolescent Medicine
> Children's Hospital, Los Angeles

> We have been interested in the potential this project holds for the health-care industry.
>
> The bulk of the work done in hospitals and other institutions is of a technical nature, and we believe that the AHPP material will be extremely valuable in preparing junior college and secondary school personnel for work in the health-care field.
>
> L.M. Detmer, Assistant Director
> Bureau of Health Manpower
> American Hospital Association

> These instructional units will give the employer in industry a much higher degree of ability to prepare people to perform given tasks, in a wider variety of ways, and enlarge our potential for the economic use of manpower.
>
> Phillip Williams, Chairman
> AHPP National Advisory Committee, and
> Vice President, Times-Mirror Company
> Los Angeles, California

The gap between research and implementation has been bridged by the Secondary Schools Project.

We are excited by the potential of the Secondary Schools program, and we are anxious to adopt the program in our district.

Cecil Briscoe
High School Administrator
Bakersfield, California

I am impressed with the program. It is one which all of the people of the United States are looking for.

Young people in secondary schools have an opportunity to experience a curriculum in health care. The average young person doesn't know the difference between an occupational therapist and a physical therapist, and probably a good many adults don't either.

Another thing this program has demonstrated is that relevant allied health instructional material can be packaged for use in a variety of places around the nation. The average school administrator will need the results of the secondary schools demonstration program in order to develop similar programs.

Levitte Mendel, Associate Director
National Health Council

This is an outstanding project and is conducted at a much higher level of technical proficiency and methodology than is usually the case for most curriculum projects.

There is a tremendous need for instructional material for community colleges in the allied health fields; this project is pioneering in the development of such material.

This project, and others, are cutting down the ten-year lag between the needs of society and the actual product (students) turned out by educational institutions.

Arthur Nelson, President
Technical Education Research Center

Traditional curriculums are giving way to the new approaches used by this exciting project. In ten years the delivery of health care will depend in a very large measure upon allied health personnel.

Edward Furstman, D.D.S.
Council on Dental Education
American Dental Association

I am impressed with the scope and depth of this remarkable project. . . . The Secondary Schools Project has a program with two major outcomes -- an occupational preparation phase, and a phase related to intelligent health care consumers. An outgrowth of contemporary conditions has produced a home health care group which needs instruction such as is being devised by this project. . . . The career lattice potential of this program is excellent.

James Ensign, Vice President
Professional Relations
Blue Cross Association

I am impressed; this is one of the better projects I have seen. . . . In task analysis, we must be concerned with the basic tasks to be performed and with the general education development required to perform the task.

Leon Lewis, Chief
Division of Occupational Analysis
and Employer Services
U.S. Department of Labor

As a hospital administrator, I am most anxious to see this prc-gram move into both the teaching hospital and the community hospital. The real worth of this project will be exemplified when we can put the results to work.

Bernard Strohm, Assistant Director
UCLA Hospitals and Clinics
UCLA Health Sciences Center

This project is directed toward the future which has extensive growth and training requirements for allied health. . . . Practicing physicians are talking with great conviction and with strong feelings about the importance of allied health occupations; practicing physicians really like allied health workers.

Ralph Kuhli, M.D., Director
Department of Allied Medical Professions and Services
Division of Medical Education
American Medical Association

We have particular interest in the Secondary Schools program because people coming into military service can pick their particular fields in the allied health occupations, and they often make the wrong choices and drop out. If they had some background of knowledge, they could make sounder choices.

Col. Richard T. Weatherall, M.S.C.
Director of Enlisted Training
Office of the Surgeon General
Department of the Army, U.S.A.

This looks like a blue chip project, and I'll do anything I can to help keep you on your course.

Dr. William Samuels, Jr., Executive Director
Association of Schools of Allied Health Professions

The wealth of background information gathered in this project will never be lost even if it is not used immediately. I think the investment of time and effort and funds all has been productive, and the results should and will be utilized.

What is being developed here has strong implications for across-the-board development in the allied health occupations. . . . Finding better and more efficient ways of teaching people and teaching them according to specified objectives cannot help but

reduce unnecessary motion, poor teaching, and ineffective use of materials. There is a cost factor implied, and perhaps we cannot demonstrate it, but the implication of economy in costs cannot be overlooked.

I shall do everything I can do specifically to maintain an interest in this project and to further it. I think it is making a great contribution in allied health education.

Dr. Joseph Kadish, Education Specialist
Division of Allied Health Manpower
Department of Health, Education, and Welfare

You have developed a pattern that might be implemented in fields other than the health areas -- even in such a field as engineering -- so that a secondary school student might have a better chance to observe various occupational areas, utilizing your model, and make a better career decision when he gets to college.

Dr. William Shannon, Acting Associate
Executive Director
American Association of Junior Colleges

We at the Office of Education support this project financially, but even more significant, we support it philosophically. . . . There is intense interest (in the project). In the month of November alone we received over 150 written requests for information about the Secondary Schools program, and though December requests have not yet been tallied, they must be at least as numerous. This tally does not include telephone requests and people dropping in to ask for information. The secondary schools needed your information last year and perhaps even ten years ago.

I am overwhelmed with the scope of the project, with the undertaking of such a wide range of programs, and the thoroughness with which you have been working. . . . I am concerned with what happens to all this fine work if and when UCLA completes its participation, and would like to know what "handles" you will provide so that others can pick up and go on with this work.

Helen K. Powers, Program Officer
Health Occupations
Office of Education
Department of Health, Education, and Welfare

I am extremely impressed, as everyone here is, especially with the Secondary Schools Pilot Project. . . . A most valuable modification of the secondary schools approach in your pre-employment program could make it available to the hard-core unemployed, the disadvantaged, the welfare recipients who must find employment under the new Family Assistance Program. If such a modification could be found, we at Social and Rehabilitation Service might be able to extend support to the ongoing products of the program at UCLA.

This program provides ways in which people can be trained outside of the standard conventional setting, but in a work situation; on the job, where you can take advantage of the special skills that are available there.

This project presents a medium for implementation of work-incentive programs, where dropouts or persons unable or without incentive to go back into traditional educational programs can enroll in a meaningful training program with early opportunity for gainful employment.

Joseph E. Traub, Consultant
Prosthetics and Orthotics
Social and Rehabilitation Service
Department of Health, Education, and Welfare

The Secondary Schools program is of particular interest to many people because of its career orientation aspects; all of our efforts to try to direct people into various occupations will fail unless these people can be helped at an early age to recognize available career opportunities. The technique used here will have application to the broad spectrum of occupational education.

We have to identify jobs and training for people with little or no education and develop ways to utilize them in our manpower and take them off the welfare rolls. I have been hoping that this project would relate itself to that particular problem because it is needed there.

Lowell Burkett, Executive Secretary
American Vocational Association

The next step -- implementation -- calls for involvement of the schools, not just community colleges and not just high schools. I'm talking about adult schools, the continuation schools, the area schools, the private schools, and other private sectors getting into training. . . . Once involvement has been achieved, it's never going to be any better than the teachers providing the instruction. You may have to get the best qualified individual to teach the content of a module, and then work with that teacher to help him do a better job of teaching it.

I would like to have the materials developed here used in the 385 high school districts in the State of California where there is such interest as Mr. Briscoe expressed in the Secondary Schools program.

Richard S. Nelson, Chief
Bureau of Industrial Education
California State Department of Education

There is tremendous support for this project at the Office of Education Comprehensive and Vocational Research. . . . One concern of the people on our staff is the total task of curriculum development. We should welcome a record or bulletin on your procedures in curriculum development that resulted in the materials shown here, and especially the things that worked well, the procedures that are transferable, the problems encountered and how they were dealt with. This could be especially helpful.

Dr. Elizabeth Simpson, AHPP Grant Officer
Instructional Materials and Practices
Division of Comprehensive and Vocational
Education Research
Office of Education
Department of Health, Education, and Welfare

STUDENT PROGRESS TOWARD ACHIEVEMENT OF PERFORMANCE OBJECTIVES

In this section, data regarding student progress toward achievement of the performance objectives of the Secondary Schools Project are presented under the following headings:

1. Students' self-evaluation of progress
2. Parents' evaluation of students' progress
3. Evidence of progress toward achieving vocational maturity
4. Evidence of progress in developing skills and behaviors essential to working in the health-care system
5. Evidence of progress in becoming a knowledgeable consumer of health-care services

Students' Self-Evaluation of Progress

Since one important measure of students' progress may be found in their own self-assessments of achievement, such assessments were obtained for each of the performance objectives of the project; and the results are shown in rank order in Table VI (page 35). As indicated in the table, the students assessed their progress on each of the nine performance objectives as being "quite a bit." On not one of the objectives did they evaluate their progress as being "none," "little," or "much." The objective on which they assessed themselves as having made the most progress was the following: demonstration of knowledge about how health-care facilities operate.

Parents' Evaluation of Students' Progress

Parents' assessment of their children's progress toward achieving the nine performance objectives is reported in rank order in Table VII (page 36).

Table VI

Students' Assessment of Their Progress Made Toward Achievement of Objectives

Performance Objective	Progress Assessment Score*
Demonstration of knowledge about how health-care facilities operate	7.8
Ability to tell what workers do in several allied health occupations	7.2
Ability to perform basic skills in selected allied health occupations	7.2
Ability to make a wise vocational choice	7.1
Demonstration of behavior appropriate to the world of work (dependability, attendance, personal appearance, etc.)	7.1
Ability to refer family and friends to appropriate health-care facilities	7.0
Ability to maintain his own health through the use of appropriate health care	6.9
Ability to explain steps necessary to enter an allied health job	6.6
Ability to identify and describe the functions of specific equipment used in the health-care system	6.6

* 0 - 5.0 = little progress
5.0 - 8.3 = quite a bit of progress
8.3 -10.0 = much progress

Table VII

Parental Assessment of Student Progress
Made Toward Achievement of Objectives

Performance Objective	Progress Assessment Score *
Ability to maintain his own health through the use of appropriate health care	8.2
Ability to refer family and friends to appropriate health-care facilities	8.0
Demonstration of behavior appropriate to the world of work (dependability, attendance, personal appearance, etc.)	7.7
Ability to perform basic skills in selected allied health occupations	7.6
Demonstration of knowledge about how health-care facilities operate	7.5
Ability to identify and describe the functions of specific equipment used in the health-care system	7.4
Ability to tell what workers do in several allied health occupations	7.3
Ability to explain steps necessary to enter an allied health job	7.3
Ability to make a wise vocational choice	7.3

* 0 - 5.0 = little progress
5.0 - 8.3 = quite a bit of progress
8.3 -10.0 = much progress

As was the case with the students, the parents evaluated progress which was made on each of the objectives as being "quite a bit." For eight out of the nine objectives, however, parents gave higher ratings of progress than did the students. Parental enthusiasm for the project was quite clearly reflected, particularly with regard to its contribution to their children's ability to maintain their own health through the use of appropriate health care and to their ability to refer family and friends to appropriate health-care facilities.

Evidence of Progress Toward Achieving Vocational Maturity

As stated at the beginning of this report, one of the four major objectives of the Secondary Schools Project was the following: The student will be prepared to make an appropriate career choice of an allied health occupation. Progress during the first year of the project toward the achievement of this goal was to include growth in these abilities:

1. To describe job tasks in several allied health occupations
2. To list the educational and training requirements for the occupations
3. To describe the career ladder associated with each occupation, including entry and advanced positions
4. To describe worker characteristics needed in various positions

On three occasions during the year, AHPP students were given a form on which to state their occupational choices and to list the steps they would have to take to enter them (Appendix D). Through the use of these forms and personal interviews, it was found that by the end of the

year, 80 percent of the students were able to specify a health occupation that they would be interested in entering and to describe steps required to enter the occupation. Reasons given for selecting an occupation became appreciably more realistic as the program progressed. This increased maturity was especially marked after the students had completed the month-long work experience in a hospital.

Only 16 percent of the students in the project were still undecided at the end of the year as to what occupation to select from among the several that interested them. Another 4 percent of the students made tentative choices of occupations that were not related to the health field.

The experience which the students had in the hospitals appeared to exert the greatest influence on their career choices. After working in each of four kinds of health occupations (one week in each occupation), the student was asked to evaluate his experience, and the hospital supervisors of his work were asked to evaluate his performance. A close relationship was found between student and supervisor ratings, and an equally close relationship was found between both of these ratings and the student's occupational choices.

Another instrument used to gain evidence of vocational maturation by participants in the project was a test designed by the research team entitled "Knowing About Jobs" (Appendix E). The test, given at the conclusion of the first year of the project, was designed to help determine

the following student abilities:

To match occupational titles with descriptions of job functions

To demonstrate an understanding of the career ladder concept

To identify occupational clusters

The percentages of correct responses made by the AHPP students to the items in the three parts of the test (corresponding with the kinds of abilities listed above) are given below:

Part I: 78.96 percent

Part II: 64.02 percent

Part III: 46.69 percent

Since the abilities tested in Parts II and III were not specifically stressed in Phase I of the project, it was not surprising to find that the students scored lower on items in these parts of the test than they did on items in Part I.

If having knowledge about jobs, making tentative career choices, and recognizing the relationship between education and the world of work are factors which motivate students to remain in school, the Secondary Schools Project should make a significant contribution to the reduction of dropouts between the tenth and eleventh grades.

Evidence of Progress in Developing Skills and Behaviors Essential to Working in the Health-Care System

Since one of the major objectives of the Secondary Schools Project was to help students gain the ability to function satisfactorily as an

employee in the health-care system, it was essential to evaluate their progress in developing behaviors which are appropriate to the world of work. The chief means of evaluating this progress was through the use of a performance appraisal form (Appendix F). The form, designed by the research team, was used by supervising personnel in the cooperating hospitals for rating AHPP students.

Performance factors which were evaluated by the hospital supervisors, together with rating scores for each kind of evaluation, are listed below:

Quality of work	Unsatisfactory	= 0
	Satisfactory	= 5
	Above average	=10
Quantity of work	Substandard	= 0
	Average	= 5
	High	=10
Potential	Doubtful	= 0
	Promising	= 5
	Above average	=10
Attitude	Indifferent	= 0
	Normal interest	= 5
	Enthusiastic	=10
Cooperation with others	Antagonistic	= 0
	Satisfactory	= 5
	Supportive	=10
Job skill	Low	= 0
	Adequate	= 5
	Good	=10
Initiative	Needs prodding	= 0
	Does assigned work well	= 5
	Seeks tasks to be done	=10

Appearance	Must improve	= 0
	Satisfactory	= 5
	Outstanding	=10

Records of student attendance while participating in the four-week hospital experience were also kept by the hospital supervisors. These records showed that during the first week the average attendance was 4.6 days out of 5; and during the fourth week it was 4.8 days out of 5.

The performance appraisal forms were filled out by hospital supervisors at the conclusion of each of the four weeks during which the students were employed. In Table VIII (page 42) are shown the average scores given to the students at the conclusion of the first week and at the conclusion of the fourth week.

As is indicated in the table, evaluations given at the end of the first week were above "5" for every factor. Highest evaluations at that time were given to "cooperation," "initiative," and "attitude." At the end of the four-week experience in the hospital, the students were again given ratings of above "5" on all factors. Highest ratings at the conclusion of the experience were given to "job skills," "attitude," and "cooperation." Greatest improvement in student performance was shown in "job skills," "attitude," "potential," and "quantity of work."

On the basis of the ratings given by the hospital supervisors, it may be concluded that by the end of Phase I of the project AHPP students were doing health-care work of satisfactory quality and quantity; were showing normal interest in the work and a promising potential for further success in it; were doing assigned work well, with good job skills; were cooperating satisfactorily with others; and were satisfactory in appearance and in attendance.

Table VIII

Hospital Supervisors' Appraisal of Students' Work Performance

Factor Appraised	Rating First Week	Rating Fourth Week
Job skill	6.7	8.0
Attitude	7.0	7.9
Cooperation with others	7.5	7.4
Initiative	7.2	7.0
Quantity of work	6.1	6.7
Potential	5.9	6.7
Quality of work	6.5	6.3
Appearance	6.1	5.8

Evidence of Progress in Becoming a Knowledgeable Consumer of Health-Care Services

As was pointed out earlier in this report, parents of the students who participated in the Secondary Schools Project said that their children had made greatest progress in the achievement of the following project objectives:

Ability to maintain own health through the use of appropriate health care

Ability to refer family and friends to appropriate health-care facilities

Clearly, the parents were very favorably impressed with the students' growth as knowledgeable consumers of health-care services. The students themselves also believed that they had progressed "quite a bit" along this line.

To supplement the above opinions, use was made by the evaluation team of the standardized Health Behavior Inventory, devised by E. Harold Le Maistre and Marion B. Pollock (published by CTB/McGraw-Hill). This instrument is a multiple-choice test which presents the student with health problems which are frequently encountered at the senior high school level, and the student is instructed to select the best one of five answers for each of seventy-five items. The test items fall under the following headings: Personal Health -- 12 items; Safety and First Aid -- 9 items; Family Health -- 9 items; Infection and Disease -- 8 items; Nutrition -- 6 items; Community Health -- 11 items; Exercise, Rest, and Recreation -- 7 items; Drinking, Smoking, and Narcotics -- 6 items; and Dental Health -- 4 items.

This test was administered at the end of Phase I of the project to determine how student participants in the AHPP program compared with a control group in consumer knowledge of health care. The control group was made up of students who were enrolled in a regular course entitled Health Science, which was also offered in the tenth grade.

Results of the test showed that the students who had participated in AHPP (n = 60) checked correct answers to 52.8 percent of the health problems, whereas students in the control group (n = 68) checked correct answers to 36.1 percent of the health problems.

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of the evaluative study which is reported in this monograph was primarily to describe and to assess the progress which student participants in the AHPP Secondary Schools Project made toward achieving the stated goals of that project. Concomitantly, assessments were made of the learning experiences and methods which were designed to contribute to that progress. No attempt was made in the study (1) to compare the specific contributions of such essential personnel as teachers, curriculum specialists, coordinators, hospital supervisors, and the many others who played key roles in the implementation of the project; (2) to compare the four schools in the AHPP project with regard to results gained; or (3) to assess the relationship of costs of aspects of the program to outcomes thereof.

Findings of the Study

The following are the most important findings of the study reported in this volume:

1. More than 900 incoming tenth-grade students applied for participation in the Secondary Schools Project, and 100 students were selected.
2. The principal reasons given by students for wanting to participate in the program were: specific interest in an allied health occupation (27 percent), general interest in career planning and decision making (21 percent), interest in helping people (16 percent), interest in getting a job and earning money (14 percent), and general interest in self-improvement (10 percent).

3. Composition of the project participants who were selected was as follows: 50 percent male, and 50 percent female; 16 percent high-ability level, 60 percent middle-ability level, and 24 percent low-ability level; 62 percent Black, 21 percent Mexican-American, 5 percent Oriental, and 12 percent other-Caucasian.

4. Students in the project expressed varying degrees of positive interest in 17 out of 18 curriculum topics which were included in the program; most interest was expressed in the following: hospital experience, relationship of individual to community health and social problems, mental health and drug overdose, maternal and child care, and folk medicine and quackery.

5. Students in the project expressed varying degrees of positive interest in 36 out of 37 health-care tasks which were included in the program; most interest was expressed in the following: blood typing, taking and recording blood pressure with sphygmomanometer, listening to heart with stethoscope, and taking blood count.

6. There was a wide range in the number of pupils who had an opportunity to have experience with health-care tasks; one task was performed by only 14 students, whereas another was performed by 62 students.

7. The taking of field trips was ranked by the students as an outstandingly interesting aspect of the project; they most enjoyed going to places where the personnel being visited made them feel welcome and worthy of attention and assistance.

8. Students in the project expressed varying degrees of positive interest in 22 out of 23 methods of learning used in the program; most interest was expressed in the following: taking field trips to health-care facilities; using films, slides, records, and other audiovisual materials; performing laboratory activities and hospital tasks in the classroom; working with "Buddies"; and having classroom discussions, and "rap" sessions.

9. In free-response comments concerning what they liked best about the AHPP program, students most frequently listed the following: learning technical skills and tasks; learning about health problems and concerns; having classroom "rap" sessions and discussions; having hospital experience and taking field trips; and role-playing, debating, and putting on skits and plays.

10. In free-response comments concerning what they liked least about the AHPP program, students most frequently listed the following: failure of health-care personnel to keep appointments; being ignored or unappreciated; having inadequate leadership; dealing with tasks that are too menial; and having to do too much writing.

11. In free-response comments concerning the AHPP program, parents were highly commendatory; but they expressed some fear that the work might not be counted for college entrance.

12. In free-response comments concerning the AHPP program, national leaders in the field of health care were highly commendatory; and they expressed the hope that the pattern of the program might also be implemented in other fields.

13. Students in the project rated their progress on each of the nine performance objectives as being "quite a bit."

14. Parents rated their children's progress on each of the nine performance objectives as being "quite a bit." Parent ratings were generally higher than those given by the students.

15. At the end of the first year of the project, 80 percent of the participants were able to specify a health occupation that they would be interested in entering.

16. The month-long hospital experience had greatest influence on vocational choices made by project participants.

17. At the end of the first year of the project, 78.9 percent of the participants could match occupational titles with descriptions

of job functions; 64 percent could demonstrate an understanding of the career ladder concept; and 46.6 percent could identify occupational clusters.

18. At the conclusion of the students' month-long work experience in the hospitals, hospital supervisors rated each of their work performance factors as being satisfactory or above. Highest ratings were given to "job skills," "attitude," and "cooperation."

19. At the end of the first year of the project, participants in the program checked correct answers to 52.8 percent of the health problems in the Health Behavior Inventory, whereas a control group of students who had taken the regular course entitled Health Science checked correct answers to 36.1 percent of the problems.

20. While 8 percent of the 100 ninth-grade students who had been selected to enter the project in the tenth grade (the following September) left school or transferred to another school during the summer session before school opened, almost 23 percent of 92 ninth graders in the alternate equated group who had not been selected to enter the program left school or transferred to another school during the same period.

21. Attrition during the year in the number of students enrolled in the project was 18 percent. Reasons for the attrition were these: left school or transferred to other schools (8 percent); transferred to more academic programs (4 percent); no longer interested in health field (3 percent); program hours conflicted with interests in sports (2 percent); and married (1 percent).

22. Attendance records made by participants in the program were almost exactly the same as those made by students in a control group.

23. In spite of the loss of 37.5 percent of the high-ability students who had initially begun in the project, grade-point averages of participants in the program were the same at the end of the year as they were at the beginning; whereas grade-point averages of an equated control group dropped .3 during that period.

Conclusions

To the extent that the findings of this study are valid, the following conclusions may be justified:

1. Student progress toward achievement of each of the following performance objectives of Phase I of the Secondary Schools Project was made to a satisfactory extent or better:

   Ability to tell what workers do in several allied health occupations

   Ability to make a wise vocational choice

   Ability to explain steps necessary to enter an allied health job

   Demonstration of knowledge about how health-care facilities operate

   Ability to maintain own health through the use of appropriate health care

   Ability to refer family and friends to appropriate health-care facilities

   Ability to perform basic skills in selected allied health occupations

   Ability to identify and describe the functions of specific equipment used in the health-care system

   Demonstration of behavior appropriate to the world of work (dependability, attendance, personal appearance, etc.)

2. The wide variety of curriculum topics, health-care tasks, learning experiences, and teaching methods which were included in the program was amply justified by the equally wide variety of interests and abilities found on the part of students enrolled in the project.

3. There was a slight positive relationship between student participation in the program and grade-point averages, particularly for low-ability and middle-ability students.

4. Ninth-grade students who were selected to participate in the project during the ensuing year were considerably less likely to drop out or transfer from their schools prior to entering the tenth grade than were students in a control group.

5. Enthusiasm for the Secondary Schools Project was widely expressed by national experts in the field of health care as well as by student participants and their parents.

Recommendations

On the basis of the findings and conclusions of this study, the following recommendations are made:

1. That the UCLA AHPP Secondary Schools Pilot Project be used as a model for similar programs in other high schools throughout the United States.

2. That the concepts and practices underlying the UCLA AHPP Secondary Schools Pilot Project, relative to establishing close interrelationships between education and the world of work, be applied experimentally to a number of other fields in addition to that of health-care services.

3. That in the subsequent offerings of Phase I of the UCLA AHPP Secondary Schools Pilot Project, the following steps be taken:

   (a) Particular attention should be given to overcoming or reducing problems and weaknesses found in the initial offering of Phase I.

   (b) Greater emphasis should be placed on the use of diagnostic tests at the beginning of the year and on continuous measurement thereafter of individual progress in achieving stated performance goals of the project.

   (c) Greater research effort should be made to determine cause-effect relationships between specific aspects of the program and outcomes thereof in terms of pupil performance.

4. That in the course of offering Phase II of the UCLA AHPP Secondary Schools Pilot Project (a year of work experience in health-care facilities for students who have completed Phase I), findings of this study serve as an important basis for both corrective and developmental activity.

APPENDICES AND EXHIBITS

APPENDIX A

INTRODUCTION TO ALLIED HEALTH

First Year Curriculum

Outline

MODULE I

A. Introduction

1. Orientation to the Allied Health Professions Projects

2. Orientation to Health Care Facilities and Occupations

   Who's Who in Health Care Facilities
   Behavior
   Ethics

B. The Health Care System

1. Components of the Health Care System

2. Utilization, nonutlitization, misutilization of the Health Care System.

   Sources of Health Information
   Quackery and Folk Medicine
   How to Evaluate Health Information and Medical Care
   How to Utilize the Health Care System

3. Problems of the Health Care System and Approaches to these problems.

4. Manpower Projections.

MODULE II

Meeting the Needs of the Patient through the Health Care System.

A. Case Presentations - (Refer to Case Presentation Format)

1. Case I - "A Simple Physical Examination", such as that performed by a school health team on a student who wishes to participate in high school athletics.

   Occupations Introduced:

   Clerk
   School Nurse
   School Physician

Tasks:

Height and weight
Hearing screening
Vision Screening
Blood Pressure
Listening to heart sounds
Percussion

Equipment: Identification of all equipment, use of equipment specified with case.

Medical Records
Scale
Height Measurement
Snellen Chart
Audiometer
Sphygmanometer
Stethoscope
Percussion Hammer
Tongue Depressor
Otoscope
Opthalamoscope

Content:

Terminology - (As related to: Health history form and a physical examination performed by a physician.)

Nutrition - Components of a normal recommended diet. Hunger and satiety; regulation of food intake.

Special Senses:

The Eye - Structure and function. Visual Screening, optical abnormalities color vision and color blindness.

The Ear - Structure and function, auditory screening, common abnormalities, vestibular apparatus.

Reflexes - The reflex cue, function, reflex testing and use as a diagnostic tool.

Genetics - Introduced using color blindness

Cardiovascular System - Structure and function
Blood Flow
Blood Vessels
Blood Pressure
Pulse Pressure
Heart Sounds

The Skin - Functions
Care
Inspection as a diagnostic tool.

Percussion - As a diagnostic tool.

Palpation - As a diagnostic tool.

2. Case II - Fracture of the Tibia. An accident which requires emergency measures, use of operating room and hospitalization.

Occupations Introduced:

Ambulance Driver
Admitting Clerk
Nurse, RN; Floor, Surgical and Recovery Room
Physician
Orderly
X-Ray Technician
Housekeeper
Nurses' Aide, LVN
Ward Clerk
Radiologist
Medical Secretary
Orthopedic Physician
Laboratory Technician
Anesthetist
Orthopedic Technician
Receptionist
Physciatrist (Doctor of Physical Medicine)
Physical Therapist
Physical Therapy Aide
Hydro-Therapist
Clerk in Business Office

Tasks:

Splinting
Moving patient; stretches, guerney
Filling out forms; admitting insurance
Filing; terminal digit, alphabetical
The Vital Signs: Temperature, Blood Pressure, Respiratic
Measuring with centimeter ruler
Bed making
Autoclaving
Taking dictation and recording vital signs
Blood counts and blood typing
Physio-therapy, walking on crutches
Hydro-therapy
Charting

Equipment:

Splints
Guerney
Admission, Discharge and Consent Forms
Thermometer
Centimeter measuring stick
X-ray equipment and protective devices used, e.g. lead gloves and apron, lead rubber strips
X-ray film processing equipment
Office Equipment: Typewriter, Dictograph
Blood typing equipment
Equipment used for casting: stockinette, padding, plaster bandages, cast saw
Equipment used in physical therapy
Crutches

Content:

Terminology	- (as related to case)
Nutrition	- Pre and post surgical dietary practices as related to injury.
Muscular System	- Structure and function with special emphasis on limbs.
Skeletal System	- Structure and function with special emphasis on limbs.
Cardiovascular System	- Monitoring vital signs Effects of injury Effects of anesthestics Blood typing Blood Count - red cells, white cells, platelets Significance of cell counts Hemoglobin
Pharmacology	- Types of drugs and anesthestics used pre-operatively, during surgery and post-operatively. Effects of these drugs Determination of drug dosage Monitoring effects of drugs on the body Drug sensitivity
Genetics	- Related to blood type

Radiography - Basic principals of X-rays
Safety precautions
Use of X-rays as a diagnostic tool

First Aid - For broken limb, splinting and transporting patient, calling for medical assistance.

3. Case III - Environmental Health

a. Environmental Sanitation

A case of food poisoning caused by improper storage of food is used to discuss environmental sanitation as a community health concern. Elementary principles relating to epidemiology, microbiology, and asespsis are introduced.

Occupations Introduced:

Epidemiologist - Physician
Clerk (in epidemiology) or
Public Health Registrar
Public Health Nurse
Public Health Investigator
Public Health Sanitarian

Tasks:

Use of forms for an outbreak of communicable disease
Sterilization procedures - autoclaving
Preparing material for bacterial growth
Streaking plates
Incubation
Microscopic examination of microorganisms in improperly stored food
Use of the microscope
Weighing materials used in the laboratory
Volume measurement
Temperature measurement
Techniques of epidemiological investigation, e.g. interviewing

Content:

Elementary Principles of Epidemiology, methods of epdemiological investigation
Functions of the Public Health Sanitation
Community Sanitation problems: Debris, Building and Safety Code violations
Standards for food storage or serving establishment
Water supply
The Microscope: Function and use

Microbiology: Growth and destruction of microorganisms
Transmission of microorganisms
Identification of microorganisms
Asepsis
Sterilization
Digestive System: Structure and function, illness caused by ingestion of contaminated food or water.

b. Environmental Pollution and Health

Air pollution is used as an example of how pollutants affect health. (This area is expanded in Case IV)

Occupations:

Air Pollution Specialists
Physician
Office Assistant
Red Cross Personnel
Fire Rescue Team

4. Case IV - Respiratory Diseases

Tuberculosis
Emphysema
Cancer
Chronic Bronchitis
Pneumonia
Common Cold

5. Case V - Cardiovascular Diseases

Stroke
Heart Disease - Arteriosclerosis
Arteriostenosis
Rheumatic Fever
Congenital Heart Disease

6. Case VI - Maternal and Child Health

A female suspecting pregnancy is followed through the health care delivery system from the time of verification of pregnancy, through prenatal visits, labor and delivery, postnatal care, and the post-partum examination. The care of the neonate and principles of well baby care are included.

Reproductive System	- Structure and function (male and female) Endocrinology of the female as related to sexual function Menstrual Cycle and Ovulation Menopause
Pregnancy	- Fertilization, development and implantation of the ovum Hormones of pregnancy The Placenta Fetal Development Maternal changes Labor and Delivery Lactation
Growth and Development of the Child	
Nutrition	- Maternal Nutrition Nutrition of the newborn and infant and child
Excretory System	- as related to pregnancy, urinalysis
Cardiovascular System	- Maternal changes during pregnancy Changes which occur during the birth of the newborn Vital signs
Genetics	- Sex determination Phenylketonuria
Communicable Diseases	- Veneral Disease Rubella Measles Diptheria Tetanus Pertussis Tuberculosis Chickenpox Mumps Immunization and Immunity
Dental Health	
Pharmacology	- Drugs used during labor and delivery.
Medical Legal Ethics, Consents	
Health Insurance	- Cost of care

Medical Records - Prenatal Visits
Labor Notes
Delivery Room Record
Anesthesia Record
Newborn Infant Obstetrian and attending Physician's record
Birth Certificate

Family Planning

7. Case VII - Mental Health

Definition of mental health, extent of the problem of mental illness in the U.S. and the community facilities and personnel that work with the mentally ill:

Phychiatrist
Psychiatric Social Worker
Vocational Rehabilitation Counselor
Public Health Nurse
Occupational Health

Included in this unit is the problem of drug dependance and usuage. Case study: Drug overdose (pills)

Occupations Introduced:

Nurse
Physician
Orderly
Inhalation Therapist
Psychiatrist

Tasks:

Review basic cardinal signs
Treatment for shock

Content:

B. Students Research of New Cases

MODULE III

The Health Care Complex

A. Preparation for Hospital Experience:

1. Community Health Care Facilities
2. The Hospital Design
3. Work Readiness
   a. Medical - Legal Ethics
      1) "The Health Worker and the Law"
      2) "Introduction to Ethics in the Healing Arts"
   b. The Role of the Learner
   c. Specific Assignments
      1) Reporting Procedures
      2) Time Cards
      3) Payroll

B. The Hospital Experience

C. Summation Project

1. Community Facilities
2. Hospital Desing
3. Individual Student Projects for Presentation

APPENDIX B

SECONDARY SCHOO. PROJECT, AHPP

Students' Evaluative Opinions

Directions to students:

In the left-hand column below are questions about what you have learned in the Secondary School Project this year. In the right-hand column are spaces for you to check your answers. Please place a check mark (✔) in the space that best describes the amount of progress that you think you have made.

This is not a test. There are no right or wrong answers. Do not sign your name.

Questions	My Opinion about My Progress this Year (Check only one answer for each question.)
1. How much progress have you made in developing your ability to tell what workers do in several allied health occupations?	_____None _____Little _____Quite a bit _____Much _____Don't know
2. How much progress have you made in developing your ability to explain steps necessary to enter an allied health job, including the training and educational background needed?	_____None _____Little _____Quite a bit _____Much _____Don't know

3. How much progress have you made in developing your ability to make a wise vocational choice?

_____None
_____Little
_____Quite a bit
_____Much
_____Don't know

4. How much progress have you made in developing your ability to demonstrate knowledge of how health care facilities operate?

_____None
_____Little
_____Quite a bit
_____Much
_____Don't know

5. How much progress have you made in developing your ability to perform basic skills in selected allied health occupations?

_____None
_____Little
_____Quite a bit
_____Much
_____Don't know

6. How much knowledge have you gained about how health care facilities operate?

_____None
_____Little
_____Quite a bit
_____Much
_____Don't know

7. How much progress have you made in your ability to identify and describe the functions of specific equipment used in the health care system?

_____None
_____Little
_____Quite a bit
_____Much
_____Don't know

8. How much have you improved your behavior appropriate to the world of work (dependability, attendance, personal appearance, etc.) ?

_____None
_____Little
_____Quite a bit
_____Much
_____Don't know

9. How much have you gained in your ability to maintain your own health through the use of appropriate health care?

_____None
_____Little
_____Quite a bit
_____Much
_____Don't know

10. How much have you gained in your ability to refer your family and friends to appropriate health care facilities?

_____None
_____Little
_____Quite a bit
_____Much
_____Don't know

APPENDIX C

STUDENT INTEREST INVENTORY

Directions

Place a check in the appropriate column for each item listed. There is no "right" or "wrong" answer. No grade will be given, and you need not sign your name. Your additional suggestions will be very helpful; space is provided for them at the end of each list, and the opposite side of the sheet may be used if needed.

CURRICULUM TOPICS	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
1. Introduction to AHPP: hospital observation	19	20	4	1	1
2. Folk Medicine, Quackery	29	29	5		
3. Midwifery	17	36	9		
4. Relationship of the individual to community health and social problems, e.g., V.D., Alcoholism, Rubella	33	28	2		
5. Components of the Health Care System - hospitals, clinics, and other community health agencies.	7	41	12	1	
6. Problems of the present health care system	12	39	11	1	1
7. Health manpower needs	8	32	16	3	5
8. Health insurance	4	30	13	15	1
9. Case I - High School Physical	12	34	10	3	4
10. Case II - Fractured Leg and Hospitalization	22	34	6	1	
11. Case III - Environmental Health; Sanitation and Food Processing	21	33	8	1	
12. Case IV - Pollution Problems; Emphysema	24	29	9		
13. Case V - Maternal and Child Care	34	23	4		
14. Case VI - Mental Health and Drug Overdose	35	23	4		1
15. Ethics of the Healing Arts 70	16	25	15	5	4

CURRICULUM TOPICS, CONTINUED

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
16. The Health Worker and The Law	6	26	16	3	9
17. The Role of the Learner	4	25	17	2	8
18. Hospital Experience	52	9	1		

SUGGESTIONS REGARDING CURRICULUM TOPICS FOR NEXT YEAR:

TASKS	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
1. Measuring weight using balance scale, measuring height.	23	25	7	1	1
2. Performing vision test using Snellen Chart	20	30	11		1
3. Taking pulse using a stop watch.	31	21	4	1	6
4. Taking temperature, using Fahrenheit thermometer.	23	24	6	1	10
5. Testing reflexes using a percussion hammer.	17	25	7	3	10
6. Listening to heart with stethoscope.	29	29	2		1
7. Taking and recording blood pressure with sphygmamanometer.	30	27	1	1	4
8. Taking respiration rate.	18	28	4	2	12
9. Performing urine tests.	22	22	8	6	1
10. Filling out hospital admission forms.	12	28	17	5	
11. Filling out medical history and physical forms.	12	24	18	3	2
12. Filling out health insurance forms.	9	19	22	9	1
13. Bed making	7	21	15	5	14
14. Blood typing	17	15	1		25

TASKS, CONTINUED

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
15. Splinting a broken leg.	19	36	1		4
16. Interviewing health personnel and others.	15	29	9		3
17. Terminal digit filing.	15	23	11	12	1
18. Alphabetical filing.	13	23	12	13	1
19. Contacting community services on telephone.	9	12	8	6	25
20. Placing patient on querney and transporting.	10	26	1	3	19
21. Performing closed cardiac massage.	2	13		2	4
22. Performing artificial respiration; mouth to mouth resuscitation.	5	15		1	36
23. Streaking and examining agar for bacterial growth.	20	19	3	2	12
24. Performing PKU test.	6	6	1	1	43
25. Taking blood count.	9	8		1	40
26. Positioning a patient (postural drainage).	5	9		1	43
27. Using microscope.	11	22	1	1	27
28. Measuring vital capacity with spirometer.	4	18	2	3	31

TASKS, CONTINUED

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
29. Designing meal plans.	7	18	7	6	21
30. Measuring with a centimeter ruler.	5	15	5	6	29
31. Autoclaving.	7	14	5	1	35
32. Casting.	17	30	1	1	9
33. Walking on crutches.	11	21	7	2	21
34. Hydro-therapy	8	30	1	1	23
35. Taking dictation and recording vital signs.	12	23	4	3	20
36. Analyzing and evaluating health information (quackery, folk medicine)	17	26	7	4	5
37. Treating patient for shock.	7	22	2		28

SUGGESTIONS REGARDING TASKS FOR NEXT YEAR:

LEARNING METHODS

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
1. Role playing improvisations	18	23	5	2	10
2. Debates	28	20	7	3	4
3. Making posters, cartoons, drawings, charts, exhibits	27	23	8	3	2
4. Reading aloud - Teacher	10	20	14	1	3
5. Reading aloud - student	11	23	11	13	4
6. Independent reading	13	27	10	5	2
7. Classroom discussions, "rap" sessions	35	19	3	3	3
8. Guest speakers	28	30		4	
9. Demonstrations by teacher or guest	33	21	2	5	1
10. Lectures	8	23	11	17	3
11. Report writing	6	26	19	8	3
12. Presenting reports or individual research to class	18	28	10	4	2
13. Films, slides, records, other audio visuals	38	22	1	1	1
14. Library research	7	31	10	5	4
15. Performing plays, skits, charades, games	35	22	3	3	1

LEARNING METHODS, CONTINUED

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
16. Performing lab activities, hospital tasks in classroom.	32	19	3		5
17. Programmed learning modules.	15	21	5	4	10
18. Keeping personal notebooks, occupational files	11	31	13	7	2
19. Interviewing hospital personnel (others also)	24	30	5	2	2
20. Buddies	26	13	2	2	15
21. Tutors	31	16	5	3	7
22. Field trips to health care facilities.	42	18	1	1	
23. Collecting health related information.	25	23	10	1	4

SUGGESTIONS REGARDING METHODS FOR NEXT YEAR:

FIELD TRIPS-FREMONT

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
1. St. Francis Hospital - Introductory Hospital observations.	8	4			
2. Martin Luther King Hospital - Visit Site	7	3	3		
3. Kedren Clinic - Mental Health	5	2	3	2	1
4. Florence-Firestone Health Center - Drug Abuse, etc.	3	8	2		
5. South District Health Center - Sanitarians	2	7	1	1	
6. UCLA - AHPP Office Pollution Exhibits.	7	5	1		
7. Griffith Park - Toyon Canyon Land Fill Site	3	5	2	2	1
8. Harbor General Hospital - Orthopedic Service	7	4	1		1
9. Children's Hospital - Adolescent Clinic	7	5			
10. St. Francis - Internship	5	5	1		

SUGGESTIONS REGARDING FIELD TRIPS FOR NEXT YEAR:

FIELD TRIPS-JORDAN

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
1. Harbor General Hospital - Introductory Hospital Observation.	11	4			
2. Fremont - Hawaii 5-0 film on quackery.	8	3	1	1	2
3. Fremont - APCD Speaker on Air Pollution	2	4	5	3	
4. Griffith Park - Toyon Canyon Land Fill Site	2	4	3	6	
5. Memorial Hospital - Career Day	8	2	1	3	
6. Morningside - Career Happening	10	3		1	
7. State Health Department - X-Ray Technician	4	4	3	1	1
8. Harbor General Hospital - Inhalation Therapist	4	9	3		
9. Harbor General Hospital - Orthopedic T Therapist	4	4	2	1	4
10. Kedren Clinic - Mental Health Workers	5	7	3		
11. Cedars - Christmas Wrapping	1	3	2	1	7
12. UCLA - Pollution Projects	5	6	2	1	1
13. Harbor General Hospital - Internship	10	5	1		

FIELD TRIPS LINCOLN

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
1. Cedars - Introductory Hospital Observation	10	6			
2. Fremont High School - Hawaii 5-0 film on Quackery.	14	2			
3. Children's Hospital - Adolescent Clinic	13	2	1		
4. East Los Angeles Health Department - Child & Youth Clinic.	8	6	1		
5. Cedars - Christmas wrapping.	8	5	3		
6. Cedars - Physical Examination	8	6		1	
7. Long Beach Memorial Hospital - Career Day	3	4			11
8. Cedars - Case II Occupations	6	10			
9. Cedars - Case II Orthopedic Technician	10	8			
10. Cedars - Case II Physical Therapist	11	5			1
11. Northeast Health Department - Sanitarians	9	5	2		
12. Cedars - Inhalation Therapist	10	5	1		
13. Fremont - APCD Speaker	4	5	2	3	2
14. Cedars - Childbirth film	12	3		1	
15. UCLA-AHPP Office, Pollution Exhibit	7	9	1		
16. Cedars - Internship	9	3			2

FIELD TRIPS-POLY

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
1. St. Mary's Hospital - Introductory Hospital Observations.	9	5		1	
2. Fremont High School - Hawaii 5-0 Quackery Film	9	3		2	
3.. Fremont High School - APCD Speaker	5	7	1	3	1
4. St. Mary's - Broken Leg Case	6	7	2		1
5. Bowers Ambulance Service - Visit facilities	4	3			6
6. Harbor Hospital - Ortho-Technician case demonstration	12	1		1	
7. UCLA Allied Health Office visit - Pollution Exhibit	6	7	1	2	
8. Cedars - Christmas wrapping	4	4	2	3	2
9. Cedars - physical exam & history	6	8		1	2
10. Public Health Department		4		1	8
11. Long Beach Free Clinic - Tour of facilities	11	6			
12. Nursing Class for B.P. demonstration	2	9	1	2	3

SUGGESTIONS REGARDING FIELD TRIPS FOR NEXT YEAR:

CLASSROOM VISITS-FREMONT

	VERY INTERESTING	INTERESTING	UNINTERESTING	VERY UNINTERESTING	NOT COVERED IN CLASS
1. Kedren Clinic - Mental Health Workers.	5	4		1	1
2. State Health Department - Quackery Lecture and demonstration.	6	4	2	1	
3. Private Physician - Physical Examination	6	7	1		
4. Schaeffer Ambulance Service - Demonstration of emergency procedures.	9	5			
5. South Health District (Ward/Willis) - Sanitarians.	6	6	1		
6. Centinella Valley Community Hospital Inhalation Therapist.	4	7			2
7. Southwest Health Center - Film and discussion on maternal & child health.	5	6			1
8. Marina Mercy Hospital - Demonstration blood typing - Laboratory Technician.	4	6			3
9. Allied Health Classes - Hawaii 5-0 film on Quackery.	8	5			1
10. APCD - Air Pollution Speaker.	3	8	2		1
11. Florence-Firestone Health Center - Talk on health education - Student Recruitment Coordinator.	3	6		1	1

APPENDIX D

SECONDARY SCHOOLS PROJECT, AHPP

Occupational Plans

Directions to students:

Some of you have decided upon the occupation you are going to enter, and some of you have not.

If you have decided, write your occupational choice at the top of the attached sheet of paper, and then list the steps you will have to take to enter it. For example:

Policeman

1. Take a general course in high school.
2. Pass police qualifying examination.
3. Go to Police Academy for training.

If you have not decided, write about why it has been hard for you to make a choice and what you plan to do about it. Have you thought about a lot of occupations, or just a few? Have you talked to anyone about choosing an occupation, or not? How long do you think you can wait before you make a choice? Write about these questions and anything else that comes to mind about choosing an occupation.

APPENDIX E

KNOWING ABOUT JOBS

NAME_____ SCHOOL_____

DATE_____

I. Following are two lists: "A" and "B." List "A" contains some occupational titles you have studied this year.

List "B" contains either definitions of the title or task performed by the person holding that title.

Match List "A" with List "B" by placing the correct letter in the right blank in front of each number in List "B."

List A

A. Midwife
B. Admitting Clerk
C. Ward Clerk
D. Pharmacist
E. Public Health Sanitarian
F. Nutritionist
G. Maid
H. Physical Therapist
I. Operating Room Technician
J. Nurse
K. Public Health Investigator
L. Orthopedic Technician
M. Orthopedic Surgeon
N. Laboratory Technician (Technologist)
O. Social Worker
P. Laboratory Assistant
Q. Business Office Clerk
R. Public Health Nurse
S. Dental Hygienist
T. Inhalation Therapist

List B

_____1. Verifies pregnancy by laboratory analysis of urine specimen

_____2. Maintains files

_____3. Counsels on problems related to pregnancy

_____4. Educates expectant mothers on importance of good dental practices

_____5. Enters patients into hospital

_____6. Performs tasks necessary to delivery

_____7. Responsible for keeping patient's chart up to date

_____8. Administers ordered medication

_____9. Cleans room for patient

_____10. Determines, from radiologist's reports, type of treatment needed for fractured leg

_____11. Aids physician putting broken leg in cast

_____12. Teaches the patient daily activities

_____13. Investigates stores and food sources for good health practices

_____14. Tests water supply to make sure it is safe for public use

_____15. Vaccinates children who are brought to a health clinic for that purpose

_____16. Makes up drug orders

_____17. Makes materials available for family food planning

_____18. Assists surgeon during surgery by passing requested instruments

_____19. Administers oxygen to patient

_____20. Under proper supervision is able to test urine for sugar

II. List "C" contains the titles of several entry-level jobs. Each job has a "career ladder" which makes it possible to progress from the entry job to a more advanced position, after gaining the necessary job experience or completing additional education.

Select an advanced position in List "A" for each of the occupations in List "C," and write the letter in the blank preceding the entry job.

List C

_____1. Clerical Aide

_____2. Food Service

_____3. Central Supply Worker

_____4. Operating Room Technician

_____5. Community Health Worker

_____6. Rehabilitation Aide

_____7. Cast Room Aide

_____8. Prescription Clerk

_____9. Medical Laboratory Assistant

III. Below are listed three major areas that are generally used to categorize allied health occupations. In other words, the occupations within each area would have several tasks in common that make it different from either of the other two areas.

Select the occupations from List "C" that are included in each of the three areas and place the number of the occupation in the blank spaces following each area.

1. Patient Care _____,_____,_____

2. Technical and Clinical Occupations _____,_____,_____

3. Facilities Support _____,_____,_____

APPENDIX F

PERFORMANCE APPRAISAL

Name: Hospital: Department:

School: Date of Work:

INSTRUCTIONS: This form should be used to evaluate employee performance. It should be reviewed with the employee. Place a check in the space which best expresses your judgment.

1. QUALITY OF WORK	Unsatisfactory ( )	Satisfactory ( )	Above Average ( )
2. QUANTITY OF WORK	Substandard ( )	Average ( )	High ( )
3. POTENTIAL	Doubtful ( )	Promising ( )	Above Average ( )
4. ATTITUDE	Indifferent ( )	Normal Interest ( )	Enthusiastic ( )
5. COOPERATION WITH OTHERS	Antagonistic ( )	Satisfactory ( )	Supportive ( )
6. JOB SKILL	Low ( )	Adequate ( )	Good ( )
7. INITIATIVE	Needs Prodding ( )	Does Assigned Work Well ( )	Seeks Tasks To Be Done ( )
8. ATTENDANCE	Unsatisfactory ( )	Satisfactory ( )	Number of Days Present ( )
9. APPEARANCE	Must Improve ( )	Satisfactory ( )	Outstanding ( )

COMMENTS: _____

SIGNATURE OF IMMEDIATE SUPERVISOR _____ DATE _____

SIGNATURE OF EMPLOYEE RATED _____ DATE _____

EXHIBIT A

ALLIED HEALTH PROFESSIONS
SECONDARY SCHOOLS INTRODUCTION TO HEALTH PR
FUNCTIONAL CHART

PRELIMINARY PHASE
APRIL 1969 - SEPT. 1970

STAFF

ASSOCIATE DIRECTOR
Oversees project.
Coordinates with AHPP.
Supervises staff.

FIELD COORDINATORS (4)
Work with hospitals to develop school-community relations.

Develop work-experience curriculum.

CURRICULUM SPECIALISTS (2)
Responsible for curriculum development.

CONSULTANT

RESEARCH ANALYST

SECRETARIES (2)

PARTICIPATING AGENCIES

4 Hospitals

4 High Schools

4 Adjacent Junior Colleges

SCHOOL COUNSELOR ORIENTATION

Orientation to goals and purpose of the program.

Enlisting cooperation.

WORK EXPERIENCE SUMMER PROGRAM

4 students and 4 teachers, one from each participating school, to work in hospital during the summer.

Teachers to assist in curriculum writing.

HOSPITAL STAFF ORIENTATION

Special needs of the project and its students analyzed.

FIRST YEAR OF INSTRUCTION
SEPT. 1970 - SEPT. 1971

PILOT AND DEMONSTRATION PROJECT YEAR I
BASIC INTRODUCTION TO AHP

Two-hour daily scheduled block of school time.

One year in duration.

Exploratory work experience, 10 units of credit.

Academic material supplemented with visual aids and field trips

Class - open to students in the 10th grade.

25 students per class.

Teacher to accompany students into the field.

Students - a heterogeneous group including all ability groups, income groups, and races

Total students involved - 100.

Total teachers involved - 4.

TUTORING

Students who need remedial assistance will be helped by teacher-aide and other volunteers.

EVALUATION

Summary and functional evaluation. Reporting at quarterly intervals.

PREPARATION FOR REPEAT OF PILOT PROJECT YEAR I

EXHIBIT A

ALLIED HEALTH PROFESSIONS
SECONDARY SCHOOLS INTRODUCTION TO HEALTH PROFESSIONS
FUNCTIONAL CHART

FIRST YEAR OF INSTRUCTION
SEPT. 1970 - SEPT. 1971

SECOND YEAR OF INSTRUCTION
SEPT. 1971 - SEPT. 1972
End of Funding

THIRD YEAR OF INSTRUCTION
SEPT. 1972 - SEPT. 1973

ENCE
RAM

4 teach-
each
school,
pital
mer.

sist in
ting.

FF

of the
s
zed.

PILOT AND DEMONSTRATION PROJECT YEAR I
BASIC INTRODUCTION TO AHP

Two-hour daily scheduled block of school time.

One year in duration.

Exploratory work experience, 10 units of credit.

Academic material supplemented with visual aids and field trips.

Class - open to students in the 10th grade.

25 students per class.

Teacher to accompany students into the field.

Students - a heterogeneous group including all ability groups, income groups, and races.

Total students involved - 100.

Total teachers involved - 4.

TUTORING

Students who need remedial assistance will be helped by teacher-aide and other volunteers.

EVALUATION

Summary and functional evaluation. Reporting at quarterly intervals.

PREPARATION FOR REPEAT OF PILOT PROJECT YEAR I

PILOT PROJECT YEAR I (REPEAT)

Another group of 100 students assist other schools in establishing program.

PILOT PROJECT YEAR II

Paid work experience program.

Coordinated by school-project staff.

Specialized training in one of the three areas of occupational training.

Coordinate with hospital in-service training.

Curriculum packages from AHPP where applicable.

EVALUATION

Report of Year I Project

CURRICULUM PACKAGE

Reproduced and distributed.

TUTORING PROGRAM CONTINUES

PREPARATION OF PILOT PROJECT YEAR III

PREPARATION FOR PILOT PROJECT YEAR II (REPEAT)

PREPARATION FOR PILOT PROJECT YEAR I (REPEAT)

PILOT PROJECT YEAR I (REPEAT)

Additional group of 100 students.

PILOT PROJECT YEAR II (REPEAT)

Group continued.

PILOT PROJECT YEAR III

Work experience project: student able to be employed after school hours as well.

Structured program for LVN's and possibly technicians.

TUTORING PROGRAM CONTINUES

CONTINUING EVALUATION AND SUMMARY

PUBLICATION OF TOTAL PROGRAM

EXHIBIT B

ORGANIZATIONAL CHART
for
Allied Health Professions Projects
and
Secondary School Basic Introduction to
Allied Health Occupations

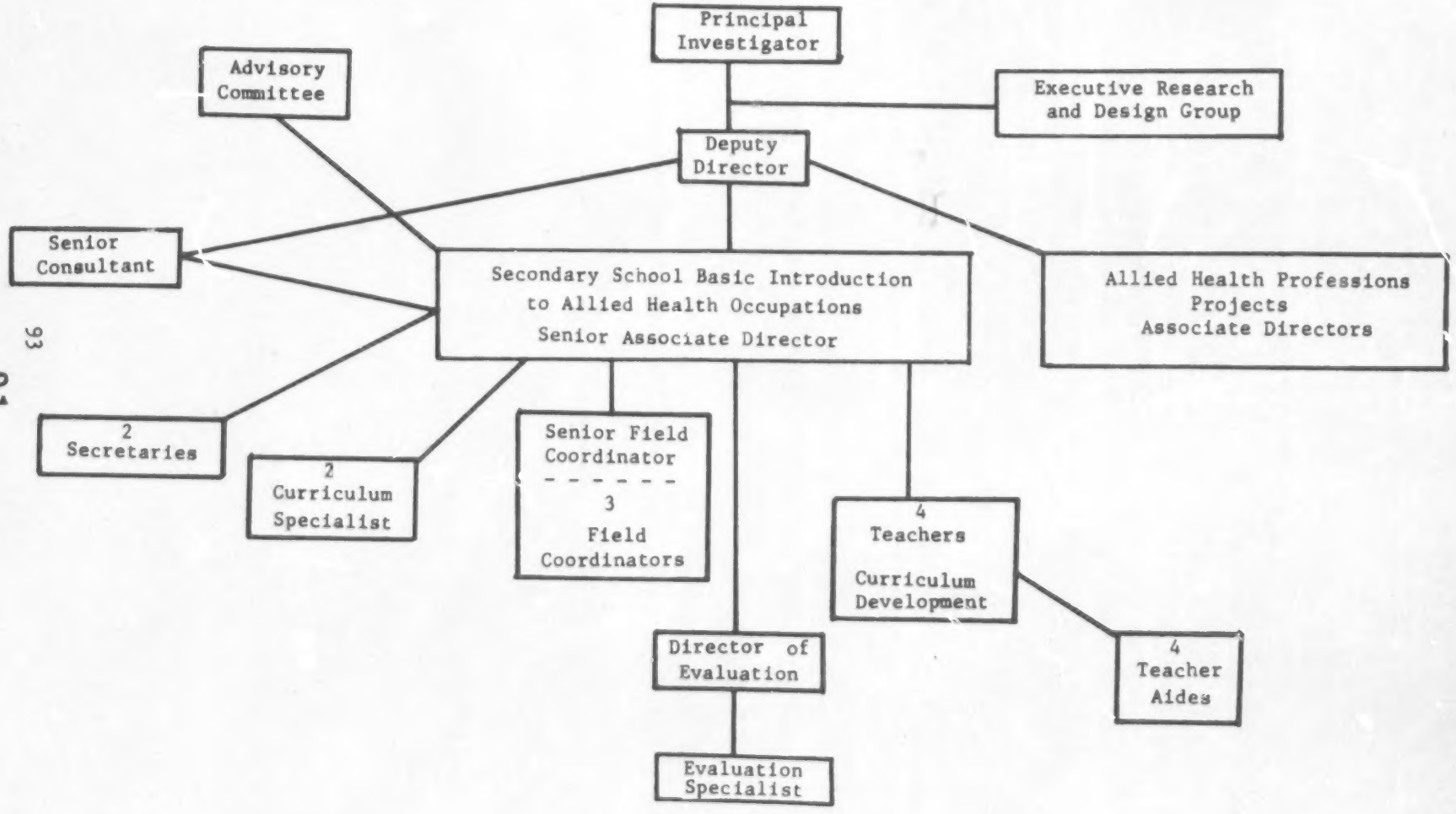

EXHIBIT C

STAFF LIST, SECONDARY SCHOOLS PROJECT

Melvin L. Barlow, Ed.D., Principal Investigator and Director
Katherine L. Goldsmith, Dr. P.H., Deputy Director
Diane E. Watson, B.A., M.S., Senior Associate Director
Clarence Fielstra, Ph.D., Director of Evaluation

Phyllis Agran, M.S., M.P.H., Curriculum Specialist

Doris Rosenthal, M.A., M.P.H., Curriculum Specialist

William Hudson, B.S., Senior Field Coordinator

Marilyn Ray, M.P.H., Field Coordinator

Gregory Threadgill, B.S., Field Coordinator

Shirley Majchrzak, M.S., Consultant

Barbara Rosenquist, M.S., Research Analyst

Marcelin Fortain, B.A., Project Teacher

Elaine Hadden, B.S., Project Teacher

May Kishiyama, B.A., M.A., Project Teacher

Maude Peronneau, B.S. R.N., Project Teacher

Charlotte Amundsen, Teacher Aide

Judy Dobson, Secretary

Margaret Campbell, Secretary

Mary Ellison, Editor

St. Francis Hospital-Fremont High School Complex

Ralph Miller, Training Director
Donald Bolton, Principal
Richard Browning, Vice Principal
Phyllis Smith, Head Counselor
Maude Peronneau, Teacher
Gregory Threadgill, Field Coordinator

Harbor General Hospital-Jordan High School Complex

Les Smith, Assistant Administrator
Ralph Watt, Training Director
Lionel Joubert, Principal
John DeBoise, Head Counselor
Elaine Hadden, Teacher
William Hudson, Field Coordinator

Cedars-Sinai Medical Center-Lincoln High School Complex

Paul Rubenstein, Director of Professional Services
Jan Costa, Training Director
Leonard Swartzman, Director of Medical Education
Peter Martinez, Principal
Lawrence Arellanes, Head Counselor
May Kishiyama, Teacher
Marilyn Ray, Field Coordinator

St. Mary's Hospital-Long Beach Polytechnic High School Complex

Anthony Abbott, Vice President, Personnel
Beverly Bohaty, Personnel Director
Jack DeBose, Principal
Don Menke, Head Counselor
Marcelin Fortain, Teacher

Martin Luther King, Jr. Hospital

Harry Douglas, Personnel Director
Tom Hawkins, Training Director

Kaiser Permanente-Harbor City

Don Martine, Training Director
Ed Bunting, Clinic Administrator

EXHIBIT D

COMPLEXES PARTICIPATING IN SECONDARY SCHOOLS PROJECT

The following complexes have been selected and prepared for participation in the evaluation.

1. St. Francis Hospital (1970-1971)
   Martin Luther King, Jr. Hospital (1971-1972)
   Fremont High School
   Southwest Junior College

2. Cedars-Sinai Medical Center
   Lincoln High School
   Los Angeles City College

3. Harbor General Hospital
   Jordan High School
   Compton Junior College

4. Kaiser Permanente (proposed participation)
   St. Mary's Hospital, Long Beach
   Polytechnic High School, Long Beach
   Long Beach City College